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"Lend a hand and plant a tree, and future generations will bless thee."—Kendig

Most of the questions on nut tree culture are answered herein.

If you have any special problems, write us and we will gladly give you the benefit of our experience.

*"Give fools their gold and knaves their power,
Let fortune's bubble rise and fall.
Who sows a field or trains a flower,
Or plants a tree is more than all."*

—Whittier.

AMERICA'S FUTURE DEPENDS MUCH UPON HER TREE CROPS

Foreword

This catalog is to convey to the public an idea of the possibilities in Northern nut culture, and what we have in stock. Much as we would like to, we cannot afford to issue a complete treatise on nut culture. This would only add to the cost of the trees, which, due to the tedious work of propagation, is high enough. Our best advice to customers and tree lovers is to read "The Nut Grower," a monthly magazine giving advice as to the care of all kinds of nut trees, and keeping its readers in touch with results from the thousands of grafted and budded nut trees coming into bearing all over the country. We hope this catalog will convey the needed information to start its readers into planting of our improved propagated nut trees.

To those who are unacquainted with the new work on nut propagation, I will try to give you an idea of the magnitude of our task. A small group of enthusiasts have been laboring for the past seventeen years striving to eke from nature the secrets embodied in making nut propagation and the nut industry in the north temperate regions a success.

In the fruit industry there are experiment stations in every state and a well organized division in the U. S. Department of Agriculture at Washington striving to solve the problems of horticulture. Again, everyone knows that fruit trees can be propagated. When any person anywhere detects special merit in an unknown variety of trees owned by them they immediately get in touch with a nurseryman, and if it proves worth retaining as a variety it is given to the world. But not so with the nut situation. We have no State or Federal aid except in a few instances where professors of horticulture are showing some personal interest. Few people know that nuts can be propagated and for that reason little effort is made to get the better trees to propagators. In fact, many nurserymen do not believe nuts can be propagated and discourage any who consider it.

All lines of endeavor regarding getting new varieties and data on the subject, all experiments and tests must be made, or sponsored, through personal funds and efforts of nut enthusiasts. To give a picture of the many untiring efforts and failures to locate new trees and in making experiments fail me but will use an extract from a letter from one of the best authorities on pecan culture in the north and west.

"Many people have beautiful ideas as to how to make a grand drive to locate parent trees of new varieties but I am sure these ideas were not originated by any who have run down and located parent trees.

"I have had some experience along this line during the past sixteen years and had I been of a literary turn of mind I would have kept notes that would now be made into interesting articles. The actual labor, time, expense and heart-breaking disappointments in connection with the work would surprise and dishearten any sane person from wanting to go on with the nut business. Many of those interested in the nut work today hardly realize what it has been to locate these trees."

PROPAGATION

After varieties are located the problem of retaining them confronts us. Only in the last decade has the secret of grafting and budding been perfected to the stage where one can propagate with any kind of success. Heretofore only the seedling tree was planted and the nuts of the best tree in the world may grow the most worthless trees. I know of two seedlings of the McAllister which is described elsewhere in this catalog. The one is a common Pecan and the other a common Hickory. This holds good with all tree life. Only propagation retains identical traits of the parent. Even though we are grafting practically all the nut species and varieties it is a hard tedious job covering a long cycle. The most easily grown costs much more per tree than fruit trees and the harder to propagate and slower growing ones cost several times as much. It has been conservatively figured that a one year grafted walnut tree costs ten times as much to grow as fruit trees and must be sold on a market that we have been compelled to create ourselves, whereas the fruit tree grower has his market established. Figuring the value of these rare grafted trees we believe they are more than worth the difference.

Many people have thought to evade the original cost of an orchard by trying to propagate the trees themselves. I say trying because I have never yet seen an orchard man succeed in propagating a nut grove. One chief of horticulture of a Middle West State makes this statement: "Men, I have no interest in any nursery, but I do say this, that after exhaustive experiments on our station farm and watching others try it, we believe that nut tree propagation is a job for a skilled nurseryman, and any wanting these valuable trees should buy the best tree the nurseryman has and count it a cheap price whatever it costs."

INFORMATION

"The Nut Grower"

The only magazine published, devoted exclusively to Northern nut culture. Any person owning one or one thousand trees should subscribe to "The Nut Grower," which is published monthly, covering the planting and care of nut trees. Subscription, 25 cents per year; \$1.00 for five years. Foreign, 40 cents per year.

Any person ordering trees from us will receive a year's subscription.

Visitors and Correspondents

I am always glad to show visitors over our nursery and give any information to stimulate their success as planters of nut trees, or assist anyone who writes for information, but ask that you read carefully either this catalog or "The Nut Grower," before writing me, to save useless discussion. The newly awakened interest in nut culture keeps me busy to the extreme.

Lantern Slide Lectures

We have prepared a collection of lantern slides for use in my lectures on nut culture. The slides cover the progress of a tree in each different species starting from seed in the nursery through its nursery life and then in orchard until it is a profitable bearing tree.

There is nothing like photos to convey the proper impression and if any of our readers would care to use the nut thought to help entertain their business men's meeting, Rotary or Chamber of Commerce or any public gathering, I shall be glad to hear from them for fall and winter appointments.

Nursery Location

When you are touring southeastern Pennsylvania, and come to one of the most beautiful towns of homes found anywhere, or if you have just come from New England and suddenly enter into a seemingly exclusive picturesque Yankee town located in a long fertile valley fringed with tree-covered hills, then you'll know you're in Downingtown. My nursery is on the Lincoln Highway just east of the borough line. Downingtown boasts of being on the best railroads of the east, the Pennsylvania and the Reading Railroads, and of fine hard road connections to every section of the United States and Canada. This location is of merit to our nursery. I might add that here in Southeastern Pennsylvania the winters are severe enough to try out the weakling varieties and species that we may know which are hardy and to harden-up our stock for life, in no matter what locality they may be shipped into.

When to Plant

My hardy transplanted, root-pruned trees will plant spring or fall, but experience proves that spring planting for the East and North is best, whereas fall planting is the most successful for the Middle West and South, where exceedingly hot summers prevail, although early spring planting will succeed. We aim to ship in a safe planting season, so don't be alarmed if your trees come at what is thought to be too late a season to plant them.

Demand for Nut Trees

The nut tree business is growing by leaps and bounds. Nurseries that are propagating the hardy grafted type often have orders booked a season ahead. Many orders have been turned down because of shortage of stock. We advise anyone wanting to plant nut trees of any rare species, to order immediately, with the hope of getting the trees in the following planting season, if the stock on hand is exhausted. Commercial planters will do well by ordering their trees a year ahead and be sure of getting exactly what is desired.

TERMS OF SALE

All our trees are guaranteed grafted of the variety specified in the contract. But no guarantee is given to their living or growth. Anyone not pleased with his shipment should make complaint immediately upon receipt of same. We do not hold ourselves liable for more than the purchase price of the stock.

All agreements and contracts are made subject to loss of our crop by any unforeseen act of chance.

All orders booked in the fall, whether for fall or spring delivery, will allow 10% discount for cash with order. All orders must be accompanied with 25% cash, balance C. O. D. For fall C. O. D. orders 7% discount will be given. In spring 5% discount will be given on orders booked before April 1st. No discount given after April 1st.

METHOD OF TRANSPORTATION

If requested we ship small packages via parcel post but postage must be sent with order which is generally about 10% of cost of the trees.

We find express the best method for all points of shipment.

Being on the main line of the Pennsylvania Railroad, we are able to obtain the very best transportation regardless of the method shipped. As this high-speed road carries all mail and express out of Downingtown. Its freight service has been very satisfactory where large shipments are made.

Japanese Beetle Quarantine

Any persons living in the beetle area will please mention same when ordering trees. This helps us in making shipments.

PROPERLY TRAINED NURSERY STOCK

In the past wherever anything was said about nut trees, it was explicitly taught that they transplanted poorly and never would take an honored place in landscape settings or for shade. We have reached a point today where we have nicely branched root systems on our nursery trees through proper transplanting, root pruning, feeding and cultivation. Another important factor is planting in the proper manner rather than the pet way each tree planter has evolved or the way shade and fruit trees are planted.

AMERICAN BLACK WALNUTS

(*Juglans nigra*)

Bearing Age

One of the big advantages of budded or grafted trees over seedlings is their early bearing habit. Generally speaking, the budded or grafted trees begin bearing in one-third of the time required for seedling trees. We often have the improved English and Black Walnut Trees to bear the third year, and sometimes the second, and they may be counted upon to begin bearing nicely by the fifth year. Many people say, "Yes, I have that old Black Walnut." But these are new and thin-shelled nuts, which crack easily, with a kernel that readily drops out. Without doubt, Black Walnut growing in the temperate regions will excel the volume of English in California in a few decades.



6-year old black walnut, 124 nuts, owned by S. H. Graham, Ithaca, N. Y.

Pioneer Plantings

Much interest would be engendered to planting these improved Blacks if the public could see the thriving trees scattered over Dr. J. Russel Smith's place in the Blue Ridge mountains of Virginia. Thomas and Ohio trees, ten years old, are bearing well and have been bearing since young. Seven-year-old Stablers breaking down with their crop. Trees six to seven feet high of the Thomas and Ohio have nuts on.

On Thomas P. Littlepage's farm at Bowie, Md., is a setting of over a hundred Stablers bearing well and have been bearing since young. The majority are ten years old, but some five- and seven-year trees are also bearing heavily.

Another large planting in Southern Illinois is bearing well. Five-year Stablers having nearly a half bushel the fifth year. An eight-year Thomas, standing on the curb of the orchard owner's home, looked to have over a bushel on when I saw it.

In Godfrey, Illinois, is a scattering of the Thomas over the Mississippi bluffs, bearing wonderfully. The proprietress of this group writes that they get \$5.00 a bushel, wholesale, or \$1.00 a pound for cracked kernels. Thomas runs about 10 pounds of kernels to the bushel.

In Pennsylvania we have two newly set 1000-tree groves of mixed varieties of Black and English, with many smaller plantings all over the East. In Michigan are a few large groves planted.

For fifteen years believers in Northern nut culture have been preaching the faith. Today, with the results at hand and the ones promising in a few years, we will prove beyond all doubt that what we claim, is true. Then we will have charity for the scoffers, fun-makers and railers of our first faith. Thereby living as it is written, holding fast the three greatest things in the universe—Faith, Hope and Charity.

When Starting a Nut Grove

Use only our grafted rapid-growing nut trees that start early in life the habit of bearing regularly heavy crops of thin shelled nuts. These superior Walnuts and Pecans cannot be compared to the common seedling. Note the following results of grafted trees.

Progress Worth While

Seven years ago the far-sighted manager of Westtown Quaker Schools set out this grove of apple and nut trees. Would they thrive and make a profit? Many "doubting Thomases" smiled. These trees set 25 feet apart on rich bottom land make a good test. At five years of age we see the Thomas Black Walnut much larger than the apple in size. Some of the apple trees are larger than shown on following page, but none are near as large as the nut trees. Only an apple here and there was seen, whereas the nuts all bore nicely, some trees having as many as 125 nuts. Compare the difference in size and bearing habit, notice how the corn is growing under the trees.



5-year Wealthy apple



5-year Thomas black walnut

The above trees stand 25 ft. apart in a five yr. old setting as explained on opposite page. This Thomas bore 109 nuts, the apple nothing.

Can a good thing come of nut tree planting? Follow the example of others and go to see the above planting and decide if the grove doesn't look interesting.

One of the failings in this grove is the lack of proper pruning. This planter was an amateur and didn't know better.

Read "The Nut Grower" for monthly advice. Proper care of nut trees when young is essential to success.

The question—How do they compare with other crops?—can be answered by doing some figuring. The Black Walnut takes almost no attention compared to the apple. They start to bear as early or earlier than the apple and as much at ten years of age. Now compare, at this age, a minimum of one bushel for the Walnut at \$5.00 per bushel, with three bushels of apples at \$1.50 per bushel.

We find the gross income for the Walnut greater. Regardless of how good testimonials and experiments we get it seems better ones keep coming. Frunut farm of Marion Ill., reports one Thomas tree six years old bearing 700 mature nuts, and many of their nine-year-old trees produced $2\frac{1}{2}$ bushels each.

Regarding the easy cracking quality of the Black, one grower thought it wonderful to crack the Stabler with a light pecan cracking hammer, but I was surprised to notice how easy I could crack them with the flimsy nut cracker made of two jaws that one squeezes together, very cheaply made and mostly used for the mixed store nuts, so one can see how much difference there is between these and the common seedlings.

Timber Value

In no other line of industry can one dispose of his producing machine so well as the Black Walnut grower. While the poultryman sacrifices his egg machine at a low cost to be made into sandwiches and the dairyman his prize milk producer to be made into bologna, the Walnut grower can reap a profit by selling the sturdy old trunks of his walnut grove for lumber to be made into furniture after it has done its duty as a commodity producer.

Because of a surplus cut immediately after the war walnut logs went begging for a buyer. But today with the surplus about off the market, with demand for walnut housefurnishings increasing 348%, interior finishings 127% and radios 817%, a demand will soon be created for sizeable logs that will make a stampede to plant the rapid growing Thomas for timber and crops.

Many people ask, "Will the rapid growing timber be as valuable as the slow growing?" Better! In many cases rapidly grown hardwood makes better timber for stress and strain than the more slowly grown ones. Whole books are used in discussing this subject, therefore I will not endeavor to cover it here.

For Woods or Forest Planting

Along with the thought of waste place planting we have the idea of utilizing the woods of forest trees for commercial nut crops.

A clear-cut distinction must be made regarding the difference between nut crops and timber growth. Those who are setting for orchard crops will most certainly get a nice timber stick if proper care in pruning is given the tree. Also the forester will get some nuts even after the tops have grown together to help defray expenses of upkeep, but remember, man cannot obtain all from any given thing in this world. The best beef cows are not profitable milkers, the best egg laying chickens are not best selling for weighty fowls and so it is with nut trees. The ones set where an unlimited growing space is allowed will do the best for crops, while the ones planted closely for the development to tall, clean sticks of timber cannot be expected to produce bounteous crops of nuts.

Species for Reforesting

Experiments made in reforesting with the Black Walnut show that solid plantings in forest formation is a failure. Therefore we recommend a mixture of the hard woods. Walnut, hickory, oak and ash. With the walnut we advise the Thomas because of its rapid growth. It may be well to use some English Walnut also. As to hickory I suggest several varieties, but the location of

planting will have important bearing on the varieties selected. In oaks two species should be selected, the white being about the best for limestone soil and the red oak for other plantings. In ash the white is, without doubt, the best that can be considered. Some plantings in reforestation has been made as close as 6 feet, which I believe is a mistake. Surely 10 feet apart is close enough and to my judgment where interest in caring for the trees is shown or where nuts are wanted from the nut trees 20 feet would be the more logical distance.

Farm Planting

Nut tree planting on a commercial scale is a new and unknown subject to many landowners. After learning of the progress we have made along lines of improving cracking quality, early bearing and so on, many would like to plant but fear the risk, or the "hoss" laugh of their neighbors. To these we recommend trying a few, setting them out in the cultivated fields and digging a post alongside of the tree.

Our experience compels our insisting on never planting trees unprotected in an open field. A post dug alongside of each tree is good in preventing cultivator injuries, but for cattle a box 12 x 12 feet made of posts and rails is necessary to prevent the cow and horse from taking an inviting free lunch from the luscious English Walnut, Pecan and Hickory. They do not bother the Black's foliage, but just love to rub and ruin the small trees. In a cultivated field we find the ones who know they can take care of their trees without posts decide to dig a post in after the mower driver has mowed a bunch off and the cultivator team has ambled over a few just when you least expected it the most. Here, as all through this catalog, we advise you to stick to instructions in planting and care.

Our experience has cost us much in time, money and good nature and believe the wise will profit by it rather than determine to learn for themselves.

Distance to Plant

We strongly recommend planting 60 feet apart for orchards or groves. This is 12 trees per acre and as one can grow crops right up to the trunks nothing will be lost in annual farm income. After one's faith is increased by results from small plantings and after nut tree culture requirements are learned then more heavy planting can be done.

The English can be planted 50 feet, Hickory 40 feet and Filbert 15 to 20 feet.

Wasteland Planting

We discourage wasteland planting, because anything producing food at the rate nut trees do must stand on fertile soil for best results.

We find that trees or anything put on wasteland generally receives the low standard of attention that refuse or discarded things get around a farm. If one wants to utilize wasteland by nut tree planting and purposes in his heart to take care of them he will succeed by care and feeding. Some confusion has been caused by my expression "wasteland planting." I might state that many sections of the country, such as Illinois, Missouri and some other states, have deep soiled ravines and gulches that are used for pasture land because they are

too rough to farm and are generally called wasteland. Here the nut tree is doing wonderfully because of the soil content. On the other hand, in some sections of the country the waste place means nothing else but waste places. These are the kind of acres that I have just referred to.

DECIDUOUS ORNAMENTALS

It seems hard for some people to get away from the idea that they must plant maples, poplars or other useless trees, simply because others are planting them, when nut trees are far more ornamental, make just as good shade trees, and in addition, produce a bountiful supply of nuts for home use if trees of good budded or grafted varieties are planted.

What constitutes an ornamental tree? The two factors of prime importance, and which the landscape architect looks to especially, are beauty and rarity. He is willing to sacrifice much on the former, if a specimen is rare. If one goes into a well-planted place, the trees and shrubs one sees every day are hardly noticed, but new or rare specimens attract one's attention at once. A lawn or home grounds planted with nut trees will attract more attention than any other planting that can be made. The early bearing of the grafted trees enhances their attractiveness as well as their usefulness.

Shrubby or herbaceous plants can be planted between or around the nut trees more easily than with other trees. The trees being very deep-rooted, will not suffer because of being near the shrubbery, provided the soil is fertile, and the shrubbery will do better near the trees than when planted near ordinary shade trees which root shallow and spread their roots over a wide area.



Behold this noble pecan grove, 7 years old and bearing, Lancaster County, Pa.

Bearing Pecans for Ornamental Settings—These Will Fill the Most Exacting Landscape Requirements

We have been approached many times for large bearing trees for landscape settings and are now in a position to supply a limited demand for them. When one is building a new home and loves to have a complete, attractive landscape

effect immediately. Great enhancement is given it by using the rare and unique bearing pecans. These trees are among the most beautiful deciduous ornamental trees we have, attaining a stately grandeur of 75 to 100 feet in height. One all-important attribute is their habit of retaining their foliage in the fall long after the other trees have shed.

Any person wanting effect and nuts immediately certainly will do well by considering this collection.

Age, ten years old, bearing since seven years of age in Lancaster County, Pa. Perfectly hardy varieties—Busseron, Posey, Niblack, Indiana, Butterick, Major and Greenriver.

Sizes about 8 inches cali. and 25 to 30 feet high, handsome specimens. These trees must be moved with a ball. Prices on request.

SOIL REQUIREMENTS

Heavy rich soil with a clay bottom is best. All the intermediate kinds to shale and light sand will do, providing proper attention is given the tree. On sandy soil we advise a more heavy annual feeding to take care of the leaching.

The Black Walnut is least exacting and like a Kentucky mule, seems to thrive anywhere on any soil.

The English or Persian Walnut is more exacting in requirements, especially demanding a neutral soil. Liming is essential when planting these trees. They seem to do especially well on sandy soil because little acid is found in sand.

The Pecan is a native of river bottoms and can thrive on any flooded area, providing the land isn't swamp. With proper attention given by the planter we find them doing well on most any location, high or low.

The Hickory will thrive wherever planted as regarding soil conditions.

One of the strongest demands of this species is nursing over the first and second summer. When planted on high, thin soil we find great assistance in bringing these out by mulching and watering. If possible, shade them. Although they will thrive under adverse conditions, for those who can give the best attention we advise using the above instructions. The most trouble conceivable is nil compared to the value of the shellbark tree that your great-grandson will reverence because you loved posterity enough to plant for them.

The Filbert being a rapid grower demands a lot of moisture, but their location must be well drained. On high ground success is attained with them, but may be a little more slowly.

A NOTE TO NOVICE PLANTERS

Although our hardy grafted nut trees come into bearing early and serve their purpose well, remember that they cannot be expected to produce as soon as peanuts. Many of the nervous types of people who have never sat close to Nature and know not her placid contentment and leisure in doing things or have never learned the pleasure of waiting on a good return from Mother Earth must learn that the best in life cannot be obtained in a minute and that the quitter never knows the pleasure of success. Many people who have become enthusiastic

with the nut idea and planted a grove soon let their fancy carry them on to a new hobby and the nut trees are forgotten.

Stand by your nut planting in their youth and they'll stand by you in your declining years.

ENGLISH OR PERSIAN WALNUT (*J. Regia*)

We propagate the Wiltz strain of Mayette. This French variety which we use has been picked out as the most desirable because of its hardiness, prolific and early bearing, and fancy nuts. When grafted on the natural Black Walnut we have a tree that will, with proper care, withstand any climate the peach will stand. Reports have been made to the effect that peaches have winter-killed where the English Walnut came through fine.

Central and Southern New Jersey and the parts of the Del-Mar-Va Peninsula has climatic environments as desirable as the Pacific Northwestern and on par with any place in the U. S.



A ten-year-old grafted Eng. or Persian walnut in Lancaster County, Pa. Note this crop harvested 1926

The finishing touches such as a few enthusiasts planting a grove of proper varieties, is all that is needed to create a stampede in this section to grow English Walnuts. Why not? The climate is mild enough in winter to allow any kind of a seedling English to thrive well and cold enough to annually stamp out the many common pests of the Pacific coast regions. Also not so hot in summer to create stick-tight nuts caused by sunburn. In short, the climate seems ideal, can we not get a few more pioneer planters in Del-Mar-Va? Some have started already.

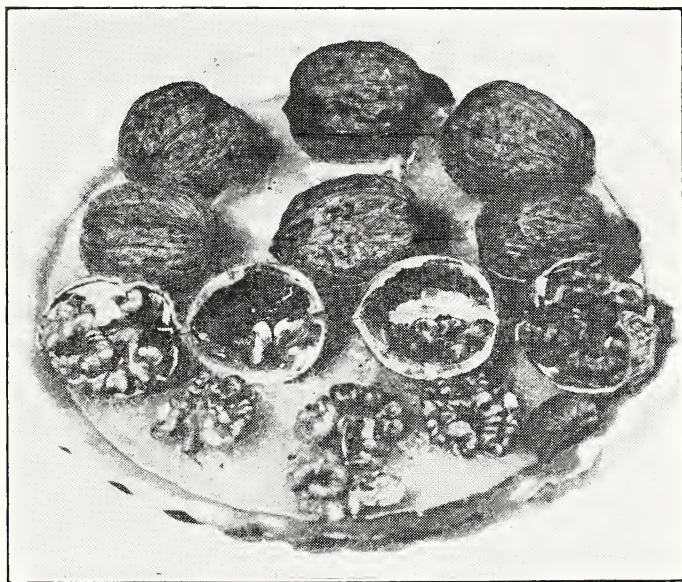
Regardless of the sturdiness of the variety, remember that this species must be given some attention the first few years in the form of feeding, cultivation and mulching. And why not? They are a valuable tree so why not give them a good start?

Northern Eng. Walnut Plantings

A State College survey shows the English Walnut bearing in nearly every county in Pennsylvania, all over Central and Western New York, and I have seen heavy bearing trees in Canada. Any place where the sweet cherry or peach thrives the English will grow.

West of Pennsylvania through the center of Ohio and the states west we draw a line to the south of which the English walnut will not do much because of the too hot summers for it. Scattered seedlings are doing fair and it may be that a worth while variety will be developed for this section in the future.

Along with the hardy character of the tree the Wiltz Mayette nut not only passes as a diamond brand, but keeps prime for two years. A very important trait in commercial growing.



WILTZ MAYETTE ENG. OR PERSIAN WALNUT

One of the strong points is its regularity of size of nuts. An important feature for a commercial planter. This variety will thrive where the peach or sweet cherry will grow

Many of the exacting requirements of this species have been modified by grafting it on the native black as we do but it still carries its natural traits to some extent.

One year from graft:

	Each	Doz.
3-4 feet	\$2.85	\$28.50
4-5 feet	3.00	30.00
5-6 feet	3.25	32.50

Write for hundred rates

Have a limited supply of bearing trees 2 to 3 in. calp. with nice head.

1st size 5 to 6 yrs. old\$50.00

2d size 3 to 4 yrs. old 25.00

If several of these are ordered or with another order we will plant them within 25 miles of the nursery.

HARDY PECANS FOR NORTHERN PLANTING (*C. Olivaformis*)

The grafted Pecan Trees are no exception to the rule and bear in one-third of the time required for seedling trees. People, many of whom have been closely allied with the Northern nut industry, expressed surprise at both the quality and the quantity of nuts borne on young trees in a test orchard, near Lancaster, Pa.

Only the foolish think Pecans don't do well in the Central West. Trees in these sections bear as much as 600 pounds. No attention is given them except flailing the trees in the fall. Why buy Pecan acreage in the South when better Pecans can be grown for less trouble in the North?



Busseron pecans

Can a more sad fact be told than the cutting of these acres of diamonds (Pecan groves) to grow corn? Will the landowners of the Central States respond to the call to save their heritage of nut trees by again planting the Pecan of the grafted variety?

Other Northern Pecan Sections

As in the South, we find there is a climatic belt running east and west where the pecan thrives even though there are no natural pecan groves. This section in the North runs east and west of the Ohio valley. We find the pecan doing remarkably well in the eastern part of this belt. One 13-year-old tree bearing heavily in Maryland and another 12-year tree in Delaware bore 3 pecks.

All through this section we find the seedling planting of several decades ago doing wonderfully. The improved kind will do as well. West of the Ohio valley on the same parallel and north of it the natural pecan is doing wonderfully and anyone there can plant these varieties with confidence. For planting farther north, I find them perfectly hardy even in Canada. For ornamental effects, they cannot be excelled. In many sections they bear and mature a nice crop of nuts. This is quite a rarity on one's home ground and I believe warrants the planting of some.

As to the quality of the nuts, we will let anyone judge from the photo whether our hardy Northern ones compare with the Southern varieties. After making careful investigations and taking photos to prove my belief, I say without reserve that the tardy progress in Northern Pecan culture is because of the mental state of the Northern landowners rather than because of lack of performance of this species. These nuts are Indiana grown from a 13-year-old Busseron tree which bore over 80 pounds of nuts much the shape and quality of the southern Schley.

Busseron and Butterick Varieties

	Each	Doz.
5-6 feet	\$3.25	\$32.00
6-7 feet	3.75	37.50

Both varieties are fine for Northern planting. If either variety has proven better in your section we shall ship that variety when filling your order.

Twice Planted Trees

We can supply a limited number of twice planted Pecans. These trees have a good start in life, and if transplanted properly we believe they will make a specimen tree in a short time.

PECANS, SIZES AND PRICES

First Size: 5 or 6 years from the bud; roots nine years old; caliper 2 to 2½ inches. Height 8 to 10 feet, heavy, well-branched heads. Extra select trees, \$12.50 each.

Second Size: Five years from the bud; roots 8 to 9 years old; caliper 1¾ to 2 inches. Height about 8 feet; well-branched heads. Very fine trees, \$9.50 each.

Third Size: Three to five years from the bud; roots 7 to 9 years old; caliper 1½ to 1¾ inches. Very nice trees, \$6.25 each.

HEARTNUTS (*J. Cordiformis*)

FAUST. This is a strain of the Jap. walnut (*J. Seiboldiana*), and one of the easiest cracking nuts we have. Nut is heart-shaped, easily cracked, with a kernel coming out in a whole lump. Kernel, a soft, mellow richness with a slight inflection of butternut flavor. Tree, a most rapid grower with a semi-tropical foliage. Has a wider known planting area than any other nut tree. Comes into bearing in 3 to 5 years. Makes a very handsome lawn specimen. This species has been keeping propagators at their wits' end to successfully propagate them. We have a very few to offer this year. We suggest that you place your order to be filled when we can supply the trees, if our supply is exhausted when you order. \$5.00 each.

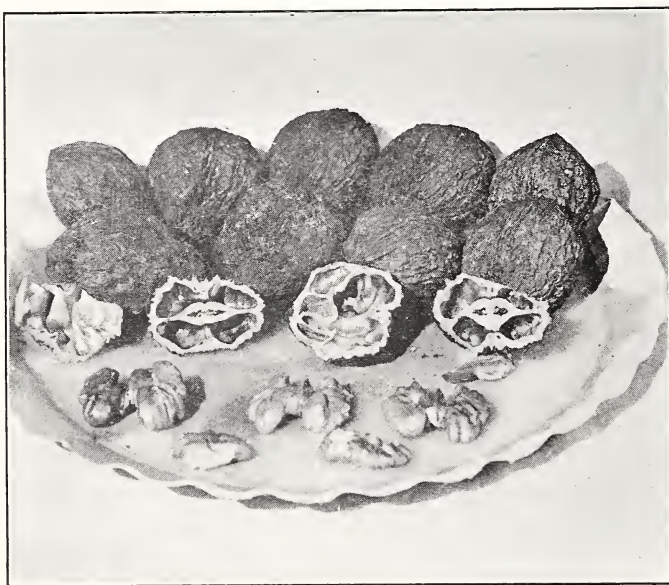
DEMING PURPLE BLACK WALNUT (*J. Nigra*)

The parent tree stands in New England and was first noticed because of its ornamental foliage. Tree, a rapid grower or nearly as rapid as the Thomas. Foliage very ornamental, being a pretty reddish purple when the leaves first unfold, slowly turning to a slate color. The sap wood also has a peculiar slate color and may be of some extra value for lumber, because of this trait. The nut is said to be a fair cracker and is quite an oddity because of its pellicle (skin of kernel) being a slate color like the wood and mature leaves.

PRICE

Each, 4-5 feet	\$3.00
Each, 5-6 feet	3.75

BLACK WALNUT (*J. Nigra*)

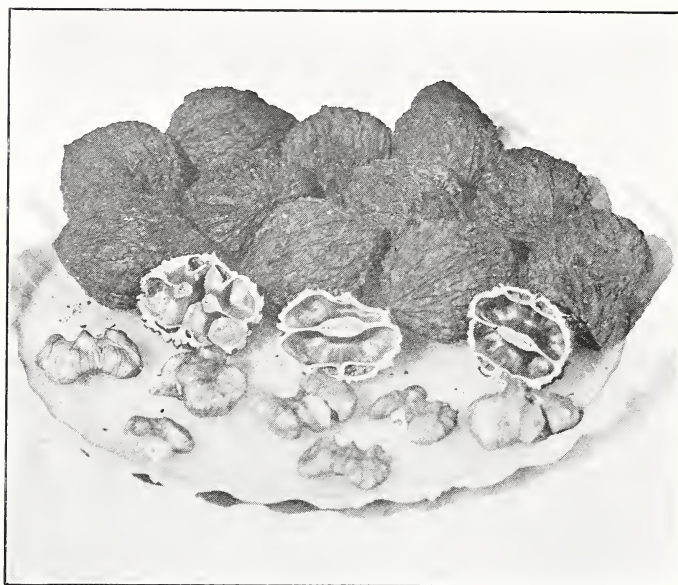


Stabler black walnut. This famous thin shelled, easy cracking nut is quite a wonder

STABLER—We certainly are delighted to announce that we can supply this most wonderful variety. It is the thinnest shelled walnut that we have. The kernel is of a waxy-like texture with a rich mellow flavor. Far superior to the common seedling kernel, many of these nuts have no middle partition and the kernel drops out whole. The tree is a spreading grower with an ornamental foliage known to no other variety of the black walnut family, and an early bearer. I have heard people say that T. P. Littlepage's setting was the most beautiful sight they ever beheld.

For more information consult page 6.

OHIO—Best cracker next to Stabler. Nut a little larger than the Stabler, with a nearly white kernel. Not so rich in oil as the Stabler. Will keep over a year in nice condition. Tree is an upright and spreading grower with a very



OHIO

Nuts with the quality of these palatable meats will be in strong demand after they are introduced

pleasing characteristic foliage. Our propagation of these failed this year so can only allow a few with any order. Everybody should plant some Ohio when planting a nut grove. Tree more hardy than Stabler for Northern planting.

THOMAS—Note the attractive size of the nut and the medium thickness of the shell in illustration on following page. We wish to point out the smooth, clean inside surface totally void of the corrugations and grooves that make the common nut so hard to pick after cracked. These nuts crack as much as 80% whole halves after one has learned the best method of cracking them. Another marked feature of these over the seedling is the increase of weight of kernel in proportion to shell.

Surely nuts at \$5 to \$8 per bushel are better than corn at 50 or 80 cents per bushel. Then remember the walnut stalk not only remains longer than the corn stalk to produce more crops, but is worth much more when cut after it has served its term of usefulness to man as a crop producer.

	Each	Doz.
2-3 feet	\$2.50	\$25.00
3-4 feet	2.85	28.50
4-5 feet	3.00	30.00
5-6 feet	3.25	32.50

We have some strong two-year,

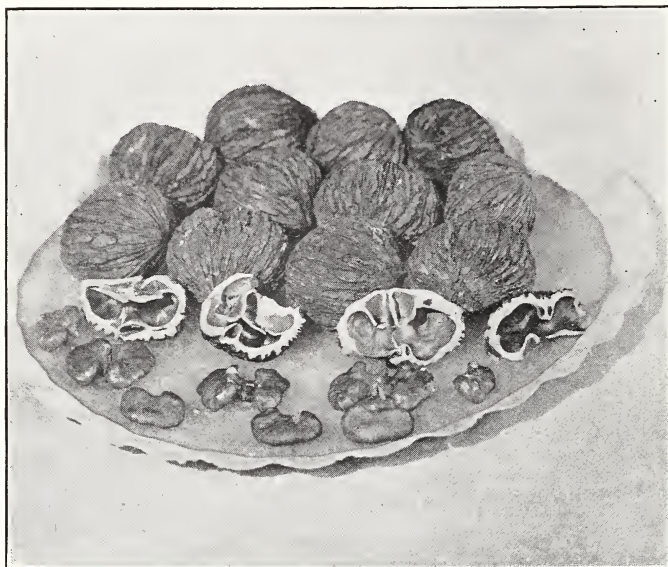
Stabler and Thomas, 5 to 7

feet, nicely branched

37.50

Six of any variety sold at the dozen rate.

Large quantity, price on request.



THOMAS WALNUT

Note the smooth, clean pockets that hold the kernels. Absence of hooks and grooves makes easy the extraction of meat.

HICKORIES (*Carya Hybrids*)

We have a nice lot of the best hybrids grafted this year and will be able to supply a small demand. The hickory is the most respected tree in America. Because of the family sentiment connected with so many of these trees it can be truly called "the tree of the American family." Wherever they are set their tall, narrow, column-like heads are a pleasing attraction. These hybrids that bear in 7 to 10 years and last for centuries should be set on every home ground. We hope to be able to supply enough in the future for grove planting.

VARIETIES—Fairbanks which I consider the best.

Laney a fine cracker.

Beaver a thin shelled nut of fine quality.

Strong 4-5 feet trees \$5.00 each

My supply of these is very limited. Please state in ordering what to substitute if supply is exhausted, or if order should be held over until another year.

We have a very few of the following hybrids:

PLEAS (*C. Olivaformis* x *Cordiformis*)
pecan x bitternut

Foliage and nut greatly resemble pecan.

BURLINGTON (*C. Olivaformis* x *Lacinosia*)
pecan x big shellbark

Sometimes known as Marquardt

Foliage deep green almost identically pecan and nut very much resembles the pecan.

Strong one year trees\$5.00

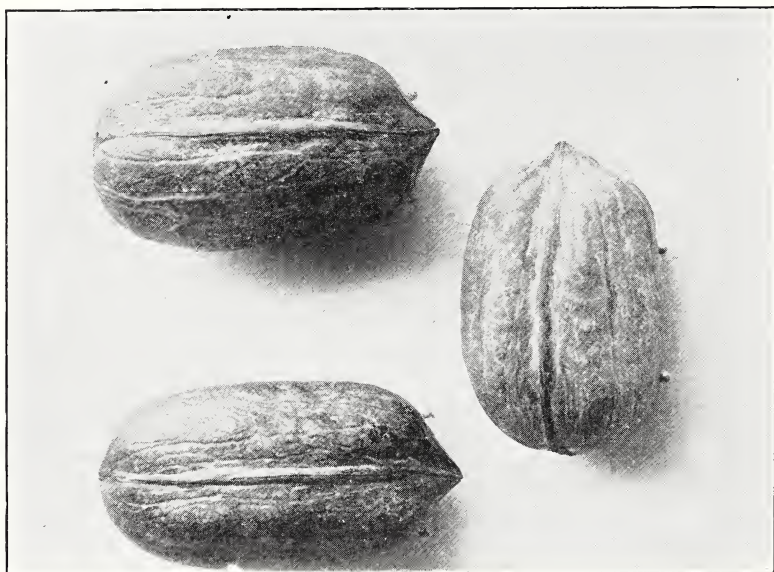
Strong two year trees7.50

BUTTERNUT (*J. cinerea*)

We have failed to propagate enough of these to catalog them. We hope to be able to supply some next year.

HICAN (*A hybrid*. ^{*Lacinosa x olivaformis*} ^{Big shellbark x pecan})

McALLISTER—For several decades the McAllister hican was thought to be a failure, but bearing trees that fill their nuts have proven the contrary to be the case. We believe this to be the largest nut grown of either the pecan or hickory family. The tree has a wide spreading growth with a foliage resembling the pecan. Truly it is one of the most ornamental deciduous trees in America. Nut measures $2\frac{1}{4} \times 1\frac{1}{4}$ and $3\frac{7}{8}$ in circumference. Nearly as thin shelled as the pecan. Kernel, full and plump with a flavor like the grand old shellbark. We have a limited quantity of these, strong one year, \$10.00 each. \$90.00 per 10.



McALLISTER
One of the North's leading nuts

FILBERTS (*Corylus*)

We find several of the popular ornamental nurseries recommending Filberts for effect in informal borders, and it is proper they do so if the fine varieties of the European species is considered. These bush-form trees not only produce a uniqueness in effect, but if mixed varieties are planted, which insure pollenization, they will bear early and regularly, heavy crops of nuts of the finest quality.

Many years ago Filbert growing was considered very profitable in the Eastern United States. Then the blight ruined everything for those who would have been rich. Today we have the blight-proof varieties that hold out great inducements for the nut planter, being able to plant as close as the peach (20 feet) they make excellent fillers for a walnut grove. Better plant some.

We say with pleasure that we are now able to supply these plants at a greatly reduced price. With the early bearing the filbert is desirable to plant for commercial purposes.

European varieties, prolific bearers and rapid growers.

Barcellona, the leading commercial variety.

Aveline.

Dariana.

Du Chilley.

All fine nuts and are used to pollenate the Barcellona.

	Each	Doz.	Hundred
Strong plants	\$1.50	\$15.00	\$100.00

Jones Corylus (C. Avellana x C. Americana
European filbert x American hazel)

No varieties are determined as yet but all are bearing nicely. Has borne much better than the filberts.

We expect these to be the leading variety of the corylus in the future and would like to see everybody try them.

	Each	Doz.	Hundred
3-4 feet strong plants . .	\$2.00	\$20.00	\$150.00

PERSIMMONS (*Diospyros Virginiana*)

These early maturing American varieties with sweet rich fruit are worth planting. They are quite an oddity and these varieties very palatable. When the American fruit grower learns to grow and dry the fruit like figs he will have a tree that will produce a profitable crop at low cost. The dried product can easily be marketed to substitute the rich sweet fig which many people cannot eat. The foliage is a gorgeous green with great large leaves on rapid growing trees that cause quite a sensation among tree lovers.

Grafted varieties—Price, 4-5 feet trees \$3.00

For full advice on nut culture that will visit your home and office monthly, subscribe for "The Nut Grower." Don't miss sending for a sample copy.

CULTURE OF TREES

Some recommend that a power disk be used once or twice in the early spring between the trees. On rough wasteland this would be impossible. But remember this part, as well as the whole program of nut culture, like anything in nature, must have instructions adjusted to suit the situation for best results.

Mulching

Sow the land to white seed clover and let it die down every year. No greater soil builder can be found than this clover, then feed with our specially prepared tree food with hoeing cultivation every few weeks until July 1st, then mulch with cut sweet clover for the balance of the year. This will give amazing returns from your trees and land. Cultivate and mulch as far or a little farther than the limbs extend.

HERSHEY'S TREE NOURISHMENT

FERTILIZERS—It is of prime importance in building a tree that it be made of the best materials the same as in building a house. We have been recommending bone meal and tankage, both of which are good for young trees and where other things in the soil make up the deficiency. But nut trees are available assets and it is all important that feeding be done that is absolutely proper.

You may consider this overdrawn, but if you could accompany me in my visits to the young orchards throughout the country and see the heart-breaking, tree breaking effect of the rapid growing trees being too soft to stand their own weight and smashing under their load, you would understand more clearly the necessity of my stressing this point.

After making a study of the mechanical and chemical properties of wood and of fertilizers, with the assistance of a fertilizer mixer who has spent his life in compounding formulas to feed plant life, we have created a food balanced in such a way that it will feed the tree all the elements necessary to make rapid growth, harden and stiffen the wood and fill the nuts. This complete fertilizer is made of pure raw materials and contains no filler. We have made it to suit the needs of the tree at the lowest possible figure. Any person who digs in his yearly mulch of manure in the spring and feeds with this prepared food at the next cultivation in a few weeks, will obtain results excelling any other method of tree care.

This brand is very good for all trees. Apply it in the spring, early summer and very late fall. Never in late summer or early fall.

For either nut trees or shade trees where cultivation cannot be done, such as on lawns, we recommend it be spread under the limbs and a little farther than the limbs extend. Wash in with water or apply just before a rain.

PRICE LIST

10 lbs.	\$1.00
25 lbs.	2.00
50 lbs.	3.50
100 lbs.	6.00
500 lbs.	25.00
1000 lbs.	45.00
2000 lbs.	80.00

SPECIFIC DIRECTIONS FOR PLANTING

Care of Trees on Arrival

If conditions are favorable, plant trees promptly on arrival. If this cannot be done for any reason, unpack the trees and either heel them in the open ground (heeling in is simply planting temporarily) or store in a cool cellar with the roots well protected with packing and paper, but not too damp.

Planting Trees

When we speak of tamping we mean you to use as strenuous methods as in setting a post. Another important thing in tamping is to tamp at an angle from

the tree in order that you get the soil firmed under the roots and against the tap root. This is very important. Some people buy expensive and valuable trees, set the bundle aside and neglect the trees, and then wonder why they did not grow. Others hurriedly dig or "gouge" out holes with rounded bottoms, in hard ground, wad the roots in, throw some chunks of hard soil and sod over the roots and tramp it down. Don't do this, you will save time and expense by throwing the trees away unless you are going to plant them properly. Dig liberal sized holes to accommodate the roots well in a natural position, and in planting use only good top soil even if you have to cart it from the garden or wood lot. Fill the holes slowly and tamp the soil firmly about the roots with a rounded tamping stick or shovel handle that won't bruise the roots. There must not only be no air holes left, but the soil must be tamped solidly against the roots of the tree. Otherwise the tree cannot draw sustenance or support promptly to maintain growth after it has started.

Don't Plant Too Deep

I find that many people make the mistake of planting too deep. Some seem to think the graft union, which is usually several inches above the surface, should be put below the ground. Don't do this. If you do, you will lose the tree. Such trees will start vigorously, but droop and die later on. Plant no deeper than the trees stood in the nursery. The ground line on a young tree is usually easily seen, but if not, it is usually about two inches above the highest side roots. Then again: Too shallow planting will bring just as much failure to the tree, as the roots will then dry out and die.

Don't Use Manure

Don't use manure or other coarse material in the holes when planting. Use nothing but good top soil, or soil mixed with well-rotted leaf mould from the woods. Manure makes an excellent mulch and will help in promoting growth if put on top as a mulch after the trees are planted. Spread it thinly over the surface, about two inches deep. Don't pile it against the trunk of the tree.

Pruning the Tree

So important is this to the welfare of the tree, and so reluctant are people in cutting back trees in planting, that we cut back all trees before leaving the nursery as they should be pruned. We find it is more satisfactory to have the buyer's complain at the start because of over pruning, than a year later because of death or none-growth due to lack of pruning. Pruning is done to balance roots and top, if neglected we find the roots can never overcome the over-sized top successfully. If on the larger trees a limb is broken when unpacked be sure to cut it off with a smooth, clean cut, cut close to the trunk, or directly back of an eye or bud if only part of the limb is cut away.

Root Pruning

It is very important to cut off all broken or bruised roots. Hold the tree upside down, then make cuts on such an angle that they fit flat against the earth when set. All these clean cuts will throw out several laterals greatly benefiting the tree, whereas the unpruned broken roots deteriorate and retard root development.

Pruning Trees

Reason for pruning trees and how.

We give your tree a proper start by cutting back all trees before leaving the nursery.

I cut back the top to balance the root system. That expression means this: When a tree is dug up a part of the roots are cut off in the act of digging, hence the cutting of the top to balance the amount of branches for roots. Should the top be left on the situation would be like one blowing into a large paper bag. You could blow your side out before enough pressure could be obtained to make it burst out. But cut it down to a 2 lb. paper bag and you can easily get up enough wind to make it burst out at some point. Just so it is with the tree. The system has not enough roots to force a proper stream of sap into the complete top when it is newly transplanted, hence a few weak leaves appear and no new growth is made. Invariably the tree will stand, barely living, for several years and never develop properly. Cut back the top as much as your conscience will allow, the more the better, and you have the same condition as your blowing in the small bag. Leaves are simply the results of pressure behind them and when they are shot out with a bang they keep on going, performing their mission in life as lungs and digestive organs for the trees which stimulates the whole system which in turn helps make more leaves. A program of ring around the rosy.

Now we come to the second stage.

You must remember that it is essential to cut the tree back to have it grow no matter how bad you want a big tree in a hurry or want a central leader, one must follow the laws of nature to get the tree started.

Here's my solution:

Rub all the buds off the trunk the first year to the three top ones. If only one is left it not only fails to give the tree enough natural leaf surface, but should it be broken off you and the tree will both experience a severe set back. In the Spring of the second year select the straightest branch of the tree and cut the balance off and by the end of the season you will have a tree about 6 feet high almost straight and will be straight in a couple years with a terminal bud shooting heavenward. During the second spring all buds along the trunk must be rubbed off every couple weeks.

Of course proper feeding and cultivation must be resorted to or proper results can never be expected.

I might state what would happen if the opposite of my instructions is followed. The first year, if the many leaflets are allowed to stay on predominating shoots will come out very low and the top eventually die. A low ill-shaped squatty tree will result.

If not pruned the second year the tree branches will all grow nicely, but in a spready manner none making an effort to lead. Although a good amount of wood will be developed over all the surface of the tree it will look like it didn't grow at all alongside of one pruned as per my instructions.

Regarding the Filberts they are dwarf bushy trees. Prune from the bottom up compelling the tree to force its growth into a top instead of into a bush form.